

Chapter 13 TECM 119 Practice Test

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Solve the problem.

1) Find the supplement of 25° .

A) 65°

B) 335°

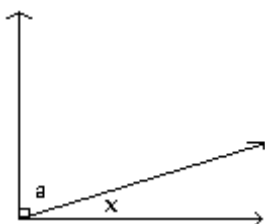
C) 245°

D) 155°

1) _____

2) Find the measure of angle x .

$a = 52^\circ$



A) 38°

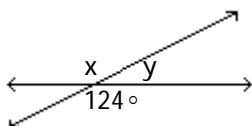
B) 33°

C) 48°

D) 28°

2) _____

3) Find the measure of angle x .



A) 124°

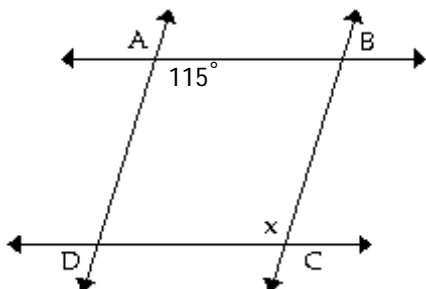
B) 34°

C) 56°

D) 134°

3) _____

4) Lines that appear to be parallel are parallel. Find the measure of angle x .



A) 115°

B) 65°

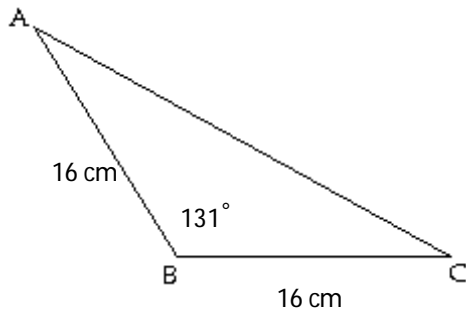
C) 135°

D) -85°

4) _____

5) Find $\angle A$.

5) _____

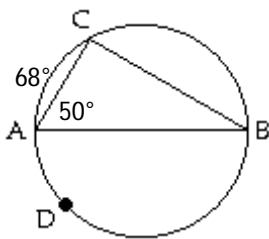


- A) 114.5° B) 19.5° C) 24.5° D) 49°

Determine the indicated arc or angle.

6) Find arc length ADB.

6) _____

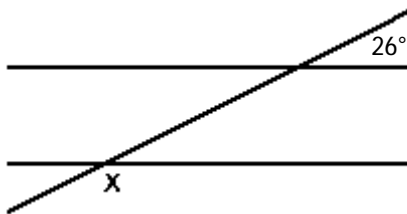


- A) 242° B) 192° C) 180° D) 267°

Solve the problem.

7) The streets in a certain city meet as shown below. Find the angle x between the indicated streets.

7) _____

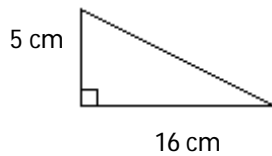


- A) 104° B) 64° C) 154° D) 109°

Find the missing length in the right triangle.

8)

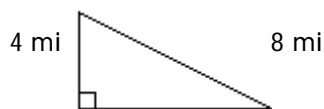
8) _____



- A) 140 cm B) 280 cm C) 17 cm D) 11 cm

9)

9) _____



- A) 6.0 mi B) 24 mi C) 48 mi D) 6.9 mi

- 10) The hypotenuse of a right triangle is 46.0 in. and one leg is 35.4 in. Find the length of the other leg. 10) _____
 A) 29 in. B) 29.4 in. C) 58.0 in. D) 58 in.

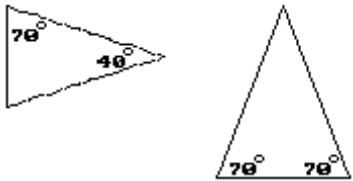
Solve the problem.

- 11) A ladder is resting against a wall. The top of the ladder touches the wall at a height of 6 ft. Find the length of the ladder if the length is 2 ft more than its distance from the wall. 11) _____
 A) 6 ft B) 12 ft C) 10 ft D) 8 ft

Assume that $\triangle ABC \sim \triangle A'B'C'$ with angles A and A' corresponding, angles B and B' corresponding, and angles C and C' corresponding. Find the indicated missing parts.

- 12) If $\angle B = 53^\circ$ and $\angle C = 50^\circ$, find angles $\angle A'$, and $\angle C'$ 12) _____
 A) $\angle A' = 87^\circ$ B) $\angle A' = 53^\circ$ C) $\angle A' = 69^\circ$ D) $\angle A' = 77^\circ$
 $\angle C' = 50^\circ$ $\angle C' = 50^\circ$ $\angle C' = 50^\circ$ $\angle C' = 50^\circ$

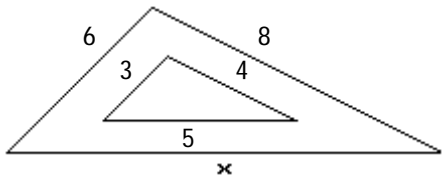
Tell whether the triangles are similar or not similar.

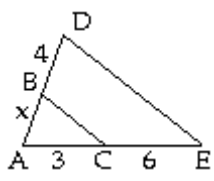
- 13) 13) _____

 A) Similar B) Not similar

- 14) 14) _____

 A) Not similar B) Similar

These triangles are similar. Find the missing length.

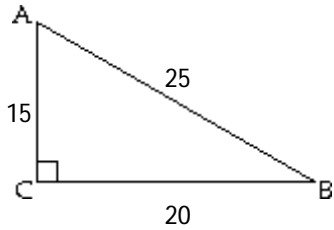
- 15) 15) _____

 A) $x = 15$ B) $x = 10$ C) $x = 5$ D) $x = 11$

- 16) 16) _____

 A) 1 B) 2 C) 4 D) 3

Find the exact values of the indicated trigonometric functions. Write fractions in lowest terms.

17)

17) _____



Find $\sin A$ and $\cos A$.

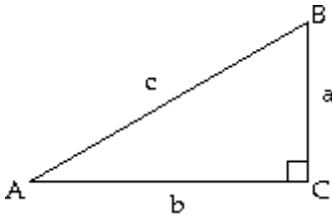
A) $\sin A = \frac{3}{5}$; $\cos A = \frac{4}{5}$

B) $\sin A = \frac{5}{4}$; $\cos A = \frac{5}{3}$

C) $\sin A = \frac{4}{3}$; $\cos A = \frac{3}{4}$

D) $\sin A = \frac{4}{5}$; $\cos A = \frac{3}{5}$

Find the values of the indicated trigonometric ratios. The listed sides are those shown in the figure.



18) $a = 24$, $b = 32$. Find $\sin A$ and $\tan A$.

18) _____

A) $\sin A = \frac{4}{5}$; $\tan A = \frac{4}{3}$

B) $\sin A = \frac{4}{3}$; $\tan A = \frac{5}{4}$

C) $\sin A = \frac{3}{5}$; $\tan A = \frac{3}{4}$

D) $\sin A = \frac{5}{4}$; $\tan A = \frac{4}{5}$

Use a calculator to determine the value of the trigonometric ratio. Round your answer to four decimal places.

19) $\tan 58.92^\circ$

19) _____

A) 0.5525

B) 1.6590

C) 0.5162

D) 53.0417

Use a calculator to determine the value of the angle to the nearest hundredth of a degree.

20) $\cos \theta = 0.2204$

20) _____

A) 12.43°

B) -12.73°

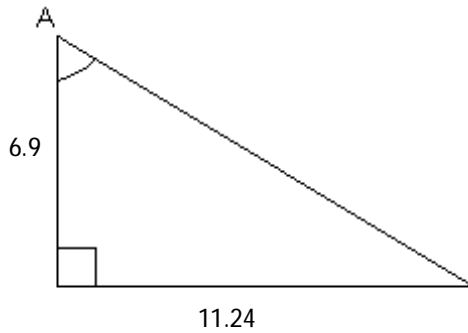
C) 12.73°

D) 77.27°

Find the requested part of the triangle. Round your answer to two decimal places.

21) Find the measure of the angle A in degrees.

21) _____



- A) 59.76° B) 31.54° C) 58.06° D) 58.46°

Solve the problem.

22) The equation $P = IV \cos \theta$ gives the power (in watts) absorbed in an ac circuit. Find θ when $P = 110 \text{ W}$, $V = 120 \text{ V}$, and $I = 1.2 \text{ A}$. Round results to an appropriate number of significant digits.

22) _____

- A) 40° B) 37° C) 50° D) 44°

Solve the right triangle.

23) $a = 2.0 \text{ cm}$, $b = 1.8 \text{ cm}$

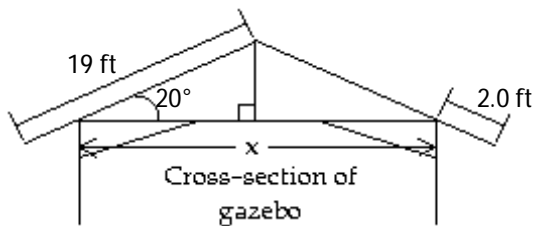
23) _____

- A) $A = 44^\circ$, $B = 46^\circ$, $c = 2.7 \text{ cm}$ B) $A = 42^\circ$, $B = 48^\circ$, $c = 2.7 \text{ cm}$
 C) $A = 48^\circ$, $B = 42^\circ$, $c = 2.7 \text{ cm}$ D) $A = 64^\circ$, $B = 26^\circ$, $c = 3.8 \text{ cm}$

Solve the problem.

24) Determine the value of x .

24) _____



- A) 39 ft B) 32 ft C) 16 ft D) 18 ft

25) When sitting atop a tree and looking down at his pal Joey, the angle of depression of Mack's line of sight is 58.3° . If Joey is known to be standing 39 ft from the base of the tree, how tall is the tree?

25) _____

- A) 65 ft B) 63 ft C) 67 ft D) 69 ft

Chapter 13 TECM 119 Practice Test

Answer Key

- 1) D
- 2) A
- 3) A
- 4) A
- 5) C
- 6) B
- 7) C
- 8) C
- 9) D
- 10) B
- 11) C
- 12) D
- 13) A
- 14) A
- 15) B
- 16) B
- 17) D
- 18) C
- 19) B
- 20) D
- 21) D
- 22) A
- 23) C
- 24) B
- 25) B